Claims

1. Composite material comprising a fiber composite (1), a large number of fiber layers (2) embedded in a polymer matrix, some of which preferably have fiber directions which differ from fiber directions of other fiber layers (2), and a connecting region (4) formed using a reinforcement material (9) with a high embedding strength, with a transitional region (3) being formed between the fiber composite (1) and the connecting region (4), in which fiber layers (2) abut against the reinforcement material (9) of the connecting region (4), characterized in that the connecting region (4) is formed from layers (9) of the reinforcement material and by fiber layers (2) which pass through the transitional region (3) into the connecting region (4), and in that, in the transitional region (3) between the fiber layers (2) which pass through, fiber layers (2) which do not pass through abut against corresponding layers (9) composed of the reinforcement material.

2. Composite material according to Claim 1, characterized in that the abutment points (10) between the fiber layers (2) which do not pass through and the layers (9) of the reinforcement material are arranged offset in the transitional region (3).

3. Composite material according to Claim 2, characterized in that, starting from the fiber composite (1) in the transitional region (3), abutment

points (10) are initially formed between the reinforcement material (9) and fiber layers (2) which contribute at least to the strength of the fiber composite (1) to withstand a main load, and abutment points (10) for fiber layers (2) of increasing importance for the strength follow offset in the direction of the connecting region (4).

4. Composite material according to ~~one of Claims 1 to 3~~ Claim 1, characterized in that the fiber layers (2) of the fiber composite (1) are arranged symmetrically with respect to the center plane (11) of the thickness of the fiber composite (1).

5. Composite material according to ~~one of Claims 1 to 4~~ Claim 1, characterized in that the abutment points (1) are in each case arranged symmetrically with respect to the center plane (11) of the thickness of the fiber composite (1).

6. Composite material according to ~~one of Claims 1 to 5~~ Claim 1, characterized in that the fiber layers (2) which pass through and the layers (9) composed of the reinforcement material are formed in alternate layers in the connecting region (4).

7. Composite material according to Claim 6, characterized in that the fiber layers (2) and the layers (9) composed of the reinforcement material all have the same layer thickness.

8. Composite material according to ~~one of Claims 1 to 7~~ Claim 1, characterized in that the fiber layers (2) which pass through are formed by fiber layers which are

strong with respect to a tensile load.

9. Composite material according to Claim 8, characterized in that the fiber layers (2) which pass through are formed with a fiber direction which has a 0° direction with respect to the tensile load.

10. Composite material according to ~~one of Claims 1 to 9,~~ Claim 1 characterized in that a proportion of layers (2) in the fiber composite (1) is provided with a 90° fiber direction.

11. Composite material according to ~~one of Claims 1 to 10,~~ Claim 1 characterized in that a proportion of layers (2) in the fiber composite (1) is provided with a fiber direction of +/- 45°.

12. Composite material according to ~~one of Claims 1 to 11~~, Claim 1 characterized in that fiber layers (2) having an oblique fiber orientation (α) each rest directly against a fiber layer (2) with the mirror-image symmetrical orientation ($-\alpha$) with respect to the longitudinal direction, and in that both fiber layers (2) together have the thickness of one 0° or 90° layer.

13. Composite material according to ~~one of Claims 1 to 12~~, Claim 1 characterized in that the reinforcement material is formed by metal layers.

14. Composite material according to ~~one of Claims 1 to 13~~, Claim 1 characterized by the fiber layers (2) and layers (9) composed of the reinforcement material having a layer thickness of between 0.2 and 1 mm.

Add C5